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CASCO BAY.

 BY REV. HENRY W. WINKLEY.

The two most famous collecting grounds on the coast of Maine are Eastport and Casco Bay. The writer having spent several summers at Eastport, devoted his energies this year to Casco Bay. From the city of Portland to Cape Small the distance is perhaps thirteen miles. From the mainland to the outer islands is some six miles. This area is said to contain 365 islands. A fortunate location was secured on one of the outer islands, in a central position as regards the longer axis of the Bay. The naturalists of the expedition were the writer and his two enthusiastic and constant companions Frank H. and Robert L. Winkley aged 10 and 7½ respectively. The shores are for the most part rocky, affording occasional tide pools rich in animal life. The bottom is of every variety, giving opportunity for any taste the mollusca may display. Land shells abound on the outer islands. Singularly they find a favorite home here while on the main land they are exceedingly scarce. We visited, for land shells, Eagle, Brown Cow, Jewells, inner and outer Green and Cliff Islands; on all but outer Green we obtained good results. The most curious of this group is the famous Brown Cow. In the midst of rough ledges,—an out post fronting the open sea,—this mere spot, rises with perpendicular cliffs to a height of at least fifteen feet. The approach must be made in calm weather, and at low tide. We had a half hour's visit and such a harvest! The top of the island is one half covered with grass, the other half is a clump of bushes. *Helix hor-*

tensis covered the leaves and branches of these bushes, the varieties being the yellow and five banded. On the ground *Pyramidula alternata*, *Polygyra albolabris* and *Succinea obliqua* were abundant. We obtained the famous wine colored variety of *P. albolabris*, and among the specimens discovered a set banded with fine lines, like *P. multilineata*. Time was precious and we collected expeditiously as the tide was coming in. We escaped from the island with a slight ducking from the surf, but happy are the results. On Green island a few specimens of *H. hortensis* were found, among them two full grown forms, which had for some reason started to grow again; extending from the finished lip was a continuation of the outer whorl, but of a dirty cream color and rough with ridges. On one of the islands Frank discovered the home of the albino *P. alternata*, a valuable prize. Shore collecting gave us a beautiful series of the various varieties of *Purpura lapillus*, and some of the specimens were the largest we have seen. We also found *Buccinum*, *Skenea planorbis*, *Turtonia minuta*, *Rissoa aculeus*, *Lacuna vineta*, and the common shore varieties. Considerable time was given to dredging in depths from seven to twenty-five fathoms. One summer is far too short to exhaust this region, but many localities were dredged with good results. A dozen to fifteen new forms were added to the cabinet, and at least fifty duplicate sets, to represent the Bay, found places in the collection. Five species of chitons were found, including *Amicula Emersonii*; a few fine specimens of *Pecteu magellanicus* were dredged, among them one that had received an injury and in repairing had turned the edges of both valves upward so that they grew at right angles to the natural plane. The interesting genus *Bela* revealed a half dozen or more species, *harpularia* being the most abundant. Brachiopods were found occasionally, and sponges, shrimp, echinoderms and other invertebrates were abundant, but with much regret at not having the means to care for them they were returned to the sea. A list of results would contain all of the common forms. The more rare species included the genera *Thracia*, *Astarte*, *Nucula*, *Modiolaria*, *Crenella*, *Cylichna*, *Margarita*, *Odostomia*, *Lunatia*, *Velutina*, *Astyris* and others.

Since the above article was written I have read with much interest the article on "*Helix alternata*" by Mr. Ormsby. I do not wish to take anything from his statements, but to add one or two concerning that species. The islands of Casco Bay are good to stand a man on his head, figuratively if not literally, for he meets with circumstances

which upset his former ideas. Land shells are very scarce in the state of Maine, at least in the parts I have visited. As a rule two or three specimens of the larger species, would be all one would find after a careful search, not so, however, on the small islands. *Pyramidula alternata* occurs in great profusion. *Polygyra albolabris* and *Helix hortensis* are also abundant. *P. alternata* occurs on one island, some distance from any trees, just above high water mark, its only shelter being rocks and small raspberry bushes. In this location some two hundred, including the albino, were found. On another island it occurs in the woods but crawling on the ground, so numerous is it, that one can hardly step without crushing the shells. Furthermore it was found feeding on animal matter, dead crabs and shells left by the crows were covered with hungry individuals.

THE SYSTEMATIC POSITION OF SPHYRADIUM ("PUPA")
EDENTULUM Drap.

BY DR. V. STERKI.

For some time, it has been my opinion that this species (= *Vertigo simplex* Gld.) has not its proper place under Pupa. The shell, though Pupa-like in its general aspect, shows two marked differences from all groups of that genus as well as all Pupidæ. In the first place, its aperture is radial, while in the Pupidæ it is lateral, or tangential, from the columellar wall being prolonged to the periphery of the penultimate whorl, or even beyond it. In the second place, the peristome in Pupidæ is more or less everted, generally with a more or less distinct lip, or at least the margin is "finished up," in mature specimens, while in *edentulum* the peristome is straight and simple, and the margin always thin and sharp, as it is in *Patula*, etc., and in the *Zonitidæ*.

This view is now confirmed by the examination of the radula. The teeth are small, comparatively, and the cusps of all are very short and small. There are r+21 (20) in a transverse row, and 116-127 such rows were counted. The centrals are tricuspid, the laterals all bicuspid, except the last which is a minute nodule; in the others there is no difference of laterals and marginals but that the plates of attachment become shorter towards the margins, and